

AMENDMENTS TO THE TITLE:

Please amend the title to read as follows:

--CHECK VALVE FOR A HIGH-PRESSURE PUMP OF A FUEL INJECTION
SYSTEM FOR AN INTERNAL COMBUSTION ENGINE--

AMENDMENTS TO THE SPECIFICATION:

Page 1, please add the following new paragraphs before paragraph [0001]:

[0000.2] CROSS-REFERENCE TO RELATED APPLICATIONS

[0000.4] This application is a 35 USC 371 application of PCT/DE 2004/000741
filed on April 8, 2004.

[0000.6] BACKGROUND OF THE INVENTION

Please replace paragraph [0001] with the following amended paragraph:

[0001] ~~Prior Art~~ **Field of the Invention**

Please replace paragraph [0002] with the following amended paragraph:

[0002] The invention is ~~based on a~~ **directed to an improved** check valve, in particular for a
high-pressure pump of a fuel injection system for an internal combustion engine, ~~as~~
~~generically defined by the preamble to claim 1.~~

Please add the following new paragraph after paragraph [0002]:

[0002.4] Description of the Prior Art

Please replace paragraph [0003] with the following amended paragraph:

[0003] One ~~such~~ check valve ~~[[is]]~~ known from German Patent Disclosure DE 197 44 577
A1~~[[.]]~~ ~~This check valve~~ is inserted into a bore in the high-pressure pump and has a pistonlike
valve member which cooperates with a valve seat in order to control the inflow of fuel into a
pump work chamber of the high-pressure pump. The check valve has a multi-part valve

housing, and the valve member is guided displaceably in a first part of the valve housing. The valve member is urged in the closing direction toward the valve seat by a prestressed closing spring and is urged in the opening direction away from the valve seat by the pressure prevailing in the fuel inlet. The valve member is inserted from the side of the valve seat into the first part of the housing and protrudes into a recess of an adjacent second part of the valve housing, in which the closing spring is located. The first part of the valve housing having the valve member and the closing spring is inserted into the bore of the high-pressure pump, and the second part of the valve housing is then inserted into the bore in order to fix the first part of the valve housing in the bore. Because of the two parts of the valve housing, the check valve has a complicated construction, and because of their separate installation it also requires major effort and assembly.

Page 2, please replace paragraph [0004] with the following amended paragraph:

[0004] ~~Advantages of the Invention~~

SUMMARY AND ADVANTAGES OF THE INVENTION

Please replace paragraph [0005] with the following amended paragraph:

[0005] The check valve of the invention ~~having the characteristics of claim 1~~ has the advantage over the prior art that because of its one-piece valve housing, it is constructed simply and is simple to install.

Please replace paragraph [0006] with the following amended paragraph:

[0006] Advantageous features and refinements of the check valve of the invention are disclosed ~~in the dependent claims. The One embodiment of claim 4~~ makes a relief of the recess of the valve housing and thus fast closure of the check valve possible, while another

[[.]] The embodiment of ~~claims 5 through 8~~ makes a flow through the check valve with only slight losses possible.

Please replace paragraph [0007] with the following amended paragraph:

[0007] ~~Drawing~~ **BRIEF DESCRIPTION OF THE DRAWINGS**

Please replace paragraph [0008] with the following amended paragraph:

[0008] **The invention is more fully described herein below, in conjunction with the drawings, in which:** ~~One exemplary embodiment of the invention is shown in the drawing and described in further detail in the ensuing description. Fig. 1 shows a high-pressure pump for a fuel injection system of an internal combustion engine; Fig. 2 shows a check valve of the high-pressure pump in an enlarged view in longitudinal section; Fig. 3 shows the check valve in a cross section taken along the line III-III in Fig. 2; Fig. 4 shows the check valve in a modified version in a section taken along the IV-IV in Fig. 3; and Fig. 5 is a detail of the check valve in a further modified version.~~

Please add the following new paragraph after paragraph [0008]:

[0008.2] Fig. 1 shows a high-pressure pump for a fuel injection system of an internal combustion engine;

Please add the following new paragraph after paragraph [0008.2]:

[0008.4] Fig. 2 shows a check valve of the high-pressure pump in an enlarged view in longitudinal section;

Please add the following new paragraph after paragraph [0008.4]:

[0008.6] Fig. 3 shows the check valve in a cross section taken along the line III-III in Fig. 2;

Please add the following new paragraph after paragraph [0008.6]:

[0008.8] Fig. 4 shows the check valve in a modified version in a section taken along the IV-IV in Fig. 3; and

Please add the following new paragraph after paragraph [0008.8]:

[0008.10] Fig. 5 is a detail of the check valve in a further modified version.

Please replace paragraph [0009] with the following amended paragraph:

[0009] ~~Description of the Exemplary Embodiment~~

DESCRIPTION OF THE PREFERRED EMBODIMENT

Page 4, please replace paragraph [0012] with the following amended paragraph:

[0012] At least one inlet conduit 50 extending at least approximately perpendicular to the longitudinal axis 45 of the bore 44 is made in the bottom ~~[[40]]~~ 42 of the valve housing 40, and this inlet conduit discharges on one end at the outer jacket of the bottom 42 and on the other in the bore portion 44a. Preferably a plurality of inlet conduits 50, for instance three, distributed uniformly over the circumference of the valve housing 40 are provided. The inlet conduits 50 discharge into the bore portion 44a in such a way that their longitudinal axes 51 do not intersect the longitudinal axis 45 of the bore portion 44a, and the inlet conduits 50 discharge at least approximately at a tangent into the bore portion 44a, as shown in Fig. 3. In the region of the bottom 42, the valve housing 40 has a somewhat reduced diameter, so that an annular chamber 52 is formed between the outer jacket of the bottom 42 and the bore 44. The inlet conduit 38 and the inlet conduits 50 in the bottom 42 discharge into the annular chamber 52. At least one bore 54 which connects the recess 41 of the valve housing 40 with the annular chamber 52 is made in the jacket of the valve housing 40.

Page 7, please add the following new paragraph after paragraph [0018]:

[0019] The foregoing relates to preferred exemplary embodiment of the invention, it being understood that other variants and embodiments thereof are possible within the spirit and scope of the invention, the latter being defined by the appended claims.